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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/883,685	06/27/1997	RENE LANGHANS	59-118-3	5438

7590 03/31/2003

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ART UNIT	PAPER NUMBER
3724	

DATE MAILED: 03/31/2003

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 51

Application Number: 08/883,685
Filing Date: June 27, 1997
Appellant(s): LANGHANS, RENE

Michael T. Clorite
For Appellant

SUPPLEMENTAL EXAMINER'S ANSWER

This is in response to the Remand, Paper No. 49, pp. 3-5, Sections III (a)-(c)[1] and the appeal brief filed February 28, 2001.

[1] The Examiner will address each of these issues in the appropriate sections of the answer preceded by the heading "Supplemental."

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is incorrect.

The amendment after final rejection filed on February 28, 2001 has been entered.[2]

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

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[2] This amendment, Paper No. 37, was referred to in Appellant's Brief, p. 3, ll. 4-5. The Examiner entered the amendment for purposes of Appeal. Note the Advisory Action, Paper No. 38.

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

The Appellant lists issues (1) - (4) which are not appealable subject matter.[3] Thus, they should be disregarded. The remaining issues (5) - (7) are correct.

Appellant's brief presents arguments relating to the specification objections and the drawing objections. These issues relate to petitionable subject matter under 37 CFR 1.181 and not to appealable subject matter. See MPEP §§ 1002 and 1201.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-3, 5-8, 10-12, and 14-21 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

However, the Appellant's groupings of the claims by separate issues are not entirely agreed with. They will be addressed more fully *infra*.

(8) Claims Appealed

A substantially correct copy of appealed claim 20 appears on page 4 (or page 21 of the Brief) of the Appendix to the appellant's brief. The minor errors are as follows:

In claim 20, line 1, the term "cutting" should be deleted. This is due to the fact that Appellant's amendment, Paper No. 20, filed on August 2, 1999, canceled this term in the claim.[4] However, it is noted to the Board that either phrases "said circular units"

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[3] Brief, p. 4, ll. 10-16.
[4] See Amendment C, Paper No. 20, p. 5, ll. 8-9.

(correct claim 20) or "said circular cutting units" (Appendix claim 20) refer to the same feature, the circular cutting units.

(9) Prior Art of Record

4,116,098	SUZUKI et al	09-1978

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-3, 5-8, 10-12, and 14-21 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

P. 7, ll. 11-21, the description of how the bush is displaced is confusing. The Examiner's comments on this issue in the last Office Action, Paper No. 16, ¶ 11, applies equally here. Moreover, Applicant's explanation on this issue is noted.[5] However, the disclosure as originally filed does not show any "means" outside of the pin wrench 25 and the slot that the wrench fits through (Fig. 4 in application) that would allow for turning of the bush 13. The proposed new drawing Figure sheds some light on this issue, but it includes many details that were not originally disclosed. Thus, it has been disapproved.

P. 7, l. 29 to p. 8, l. 14, the description of the comparison between the prior art and the state of the art is not clearly understood. The Examiner's comments on this

issue in the last Office Action, Paper No. 16, ¶ 11, applies equally here. Moreover, Applicant's explanation on this issue is noted.[6] However, Applicant still fails to provide the requisite nexus between the prior art representations and the invention. Applicant states that *certain* measurements and values from the prior art has been used as a baseline of 100%. What were those measurements and values? Again, without more, it would appear that the alleged advantages that the table is presumably showing is nothing more than a direct result of smaller diameter blades. Applicant traverses the Examiner's characterization on this issue by stating that the Examiner "oversimplified" the significance of the present invention. How? It is acknowledged that the blade diameter, shaft diameter, cutting angle, and cutting force on the blade are all interrelated. However, that does not detract from the fact that a smaller diameter blade does not require as large a shaft diameter, cutting angle, and cutting force of a larger blade since the required shaft diameter, cutting angle, and the cutting force is *directly related* (or proportional) to the diameter of the blade. As Applicant states,

> "*Large blade diameters*, in turn, reduce cutting angle, thereby requiring more cutting force and demanding larger shafts."[7] (emphasis added).

Thus, if this is true, then smaller diameter blades must have proportional characteristics, i.e. smaller diameter blades must have an increased cutting angle and requires less force and smaller diameter shafts.

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[5] See Amendment C, Paper No. 20, p. 7, ll. 5-12.
[6] See *Id.*, p. 7, l. 13 – p. 8, l. 11.
[7] See *Id.*, p. 8, ll. 7-9.

2. Claims 1-3, 5-8, 10-12, and 14-21 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

i. In claim 1, ll. 21-22, the "means for releasably coupling..." clause is vague and indefinite in that it is not clear what the clause encompasses. What is the particular "means" referring to? What structural features are encompassed by this "means"? The same applies to the rest of the claims. Applicant's explanation on this is issue is noted.[8] However, the specification as originally filed fails to show any particulars with respect to the drive unit being detachable.

ii. Claim 6 is vague and indefinite in that it is not clear what the claim encompasses. What is the scope of the claim such that a "circular cutter unit", which is assumed and implied to be referring to a specific part of a broader cutting apparatus, further comprises at least one guide rail? As best understood of the specification, it would seem that, at most, the "circular cutter unit" would comprise a means to *allow* displacement of the frame as opposed to the "means" as claimed herein. Applicant's explanation on this issue is noted.[9] However, Applicant misses the point. The claims are directed to a "cutting unit". By definition, this is only one of several "units" that can be mounted on a *broader* cutting apparatus.

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[8] See *Id.*, p. 8, l. 23 – p. 9, l. 7.
[9] See *Id.*, p. 9, ll. 8-14.

Moreover, the claimed "at least one guide rail" is not a part of the cutting unit but rather the cutting apparatus. In addition, the claimed "means" implies a positive structure that displaces the cutting unit which is contrary to what is disclosed. Thus, the scope of the claim is not clear.

iii. Claim 7 is vague and indefinite in that it is not clear what the claim encompasses. What is the structural line of distinction between the "means for rotatably supporting" including the axially displaceable bush *and* the "means for establishing and adjusting the cutting gap" of claim 1 since the bush facilitates the adjustment?

iv. Claim 10 is not clearly understood. What is the "cutting angle" referring to? How is the "angle" defined by an "overlap"? Applicant's explanation on this issue is noted.[10] However, the specification as opposed to Applicant's comments in the previous Amendments, does not set forth the argued definition. Thus, the claim is still unclear.

v. In claims 12 and 17, the phrase "said horizontal plane" lacks clear antecedent basis.

3. As best understood, claims 1-3, 5-8, and 10-21 stand rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al.

Suzuki et al discloses a gang slitting machine comprising all the elements claimed including a plurality of cutter units 15A, 15B; each unit having upper and lower circular blades 17, 19; upper and lower blade shafts 131, 163; a non-positive drive connection

between the shafts including a transport ring 143, 173 wherein the drive connection is frictional; a frame 25A, 25B, 27, 29, 31A, 31B, 33A, 33B having a substantially U-shape; upper leg 25A, 25B; lower leg 27; a flat yoke 37A, 37B, 39A, 39B disposed at an acute angle; means 133, 135, 165, 167 for rotatably supporting the blade shafts; means for establishing and adjusting a cutting gap between the circular blades (col. 9, lines 24-31) within the range as claimed; an inherent means for releasably coupling one of the circular blade to a driving unit having a motor 299 since the connection thereof is inherently detachable; means for displaceably mounting the frame including at least one guide rail 81; a cutting angle within the range as claimed since the blades are overlapping within the range as claimed; each of the shafts have a diameter within the range as claimed since they are relatively small as depicted in the Figures; it appears that the yoke have the acute angle within the range as claimed (see Fig. 4); means 77 on each frame slidably engaging the guide rails; and means 129, 161 for transmitting drive motion provided by the driving unit. See whole document.

(11) Response to Argument

Initially, it is noted to the Board that the Brief contains arguments that are petitionable, rather than appealable, subject matter in pages 6-7 thereof. As such, they will not be addressed by the Examiner.

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[10] See *Id.*, p. 9, l. 22 - p. 10, l. 1.

Re Section 112, First Paragraph, Rejection - Issue 1

In response to Appellant's basic argument that the disclosure does provide an enabling disclosure for displacement of the bushing,[11] this argument is traversed.

First, Appellant avers that a proposed amended drawing to Fig. 1 in the After Final Amendment filed on January 8, 2001 would have obviated this issue.[12] However, the proposed amended Fig. 1 was deemed to introduce new matter with the inclusion of a slot running perpendicular to the horizontal or axial slot already included on the top (between the protuberances) of each of the cutting units.[13] This was never shown or discussed in the application as originally filed, and there was no convincing showing why such an amendment was necessary and not earlier presented. It should be noted that this issue had been raised even at the onset of prosecution of the instant application.[14] For the Appellant to now introduce this proposed amended Figure at this late stage and expect the Examiner to not consider it as new matter is unacceptable. Moreover, the Appellant alleges that the slot, which Appellant refers to as a circumaxial slot, in Fig. 4 in which the pin wrench 25 is inserted towards the bush 13 is not the axial slot shown in Fig. 1 because it is not visible in Fig. 1.[15] If so, then why was it necessary for the Appellant to try to introduce a new slot in the above mentioned proposed amended Fig. 1? This is inconsistent no matter the level of detail the Figure is intended to show. Therefore, it is the Examiner opinion that the denial of entry was not in error.

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[11] Brief, p. 7, l. 22 - p. 8, l. 24.
[12] *Id.*, p. 8, ll. 4-6.
[13] Compare original Fig. 1 with the proposed amended Fig. 1 in Paper No. 31 which was disapproved by the Examiner.
[14] Note the First Office Action, Paper No. 6, p. 4, l. 15-19, mailed December 30, 1996.
[15] Brief, p. 8, ll. 7-15.

Second, the Appellant basically reiterates the description in p. 7, ll. 11-19 of the specification with the additional explanation about the circumaxial slot and the insignificant level of detail in Fig. 1 which together purports to providing an enabling disclosure.[16] However, this misses the mark. Comparison of Figs. 1, 2, and 4 show that the pin wrench 25 must fit through a slot somewhere near the top of the individual cutting unit (14, 15). In fact, this slot must be somewhere near the top of the upper leg 51. This is substantiated by comparing Figs. 2 and 4 which show the same side view of the cutting unit 14 except that Fig. 4 is in cross section. Note the location of the gap screw 24 in both Figs. 2 and 4. Note also the location of the pin wrench 25 in relation to the gap screw in Fig. 4. One skilled in the art reading the description in page 7 in light of Figs. 1, 2, and 4 would conclude that the only logical slot that the pin wrench could possible fit through to facilitate turning of the bush 13 would be through the slot (not designated by reference) in the upper leg 51 and above the upper blade 2. See e.g., Figs. 1 and 3. That slot runs parallel to the axis of the blade 2 as shown in Fig. 3 (in and out of the paper). Because the Appellant describes the pin 25 as a wrench, it is naturally assumed that this pin provides a torque to the bush, i.e. the pin rotates about the axis of the blade and shaft or in and out of the plane of the paper as shown in Fig. 4. However, this requires some gap or slot that runs *perpendicular or transverse* to the slot shown in the upper leg 51. Clearly this is not shown. Therefore, how is it possible for the pin wrench to turn the bush when there is no structure to facilitate this action? Appellant's assertion that Fig. 1 is not intended to show a significant level of detail is not well taken. The claims require a "means for establishing and adjusting a cutting gap between said

[16] *Id.*, p. 8, ll. 7-21.

two circular blades" (e.g. claim 1). Since this "means" is important enough to be claimed, then it should have been set forth with significant detail in the drawings to provide an enabling disclosure. Moreover, Appellant uses the term "circumaxial slot" to try to differentiate the slot in which the pin wrench is inserted. What is the difference? Where has this terminology been used in the specification as originally filed to explain this slot? Most importantly, where is this terminology used in p. 7, ll. 11-19? Appellant makes much about where this "circumaxial slot" is visible or not visible or where this "slot" could or could not extend but the specification does not provide any details thereof. Thus, how does this support the Appellant's assertion that the disclosure is enabling? In the same vein, the Appellant concludes the argument by stating that "The circumaxial slot of Fig. 4 is a "means" which allows for the circumaxial movement of the pin wrench 25 and the turning of the bush 13."[17] That may be if it was clear as to what that "circumaxial slot" really entails in the first place. Based on what is shown in Fig. 4, the slot is simply a hole of some shape. Moreover, the claims clearly call for something more than a "means to allow." As noted above, claim 1 requires a "means for *establishing* and *adjusting* a cutting gap" (emphasis added) which is not commensurate in scope with simply a "means for allowing." The former entails structure that performs a positive function. The latter entails a passive function.

In response to Appellant's basic argument that claim 21 does not include a "means for establishing and adjusting a cutting gap between the circular blades" and

[17] *Id.*, p. 8, ll. 18-20.

therefore, the claim is improperly rejected under 35 USC 112, 1st paragraph, this argument is traversed.[18] The relevant portion of claim 21 requires the following:

> "first and second blade shafts respectively supporting said first and second circular blades in *positions* to cooperatively cut the material *and to maintain a cutting gap between said cutting edges*" (emphasis added).[19]

It is acknowledged that claim 21 does not explicitly use the "means for establishing and adjusting" terminology. However, this "means" is inferentially claimed. Otherwise, how would it be possible for just the shafts to support the blades in *positions* and *to maintain a cutting gap between the cutting edges*? Thus, contrary to Appellant's assertions, claim 21 does include subject matter that is relevant to the basis for the rejection under 35 USC 112, 1st paragraph.

SUPPLEMENTAL - Explanation Re: Section III (a) From Remand

In Section III(a) of the Remand, the Board required a specific explanation as to why a relative lack of detail in the specification and some minor inconsistencies in the drawings would have prevented a person of ordinary skill in the art from making and using, without undue experimentation, a device having the relatively simple and straightforward cutting gap establishing and adjusting means described on specification pages 5 and 7, shown in Fig. 4 and recited in claims 1 and 18.

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[18] *Id.*, p. 8, ll. 22-24.
[19] Appendix A, claim 21, ll. 7-9.

In response thereto, the Examiner points out that one of the important features to Appellant's invention, disclosed and claimed, lies in the "means for establishing and adjusting a cutting gap between said two circular blades." It is the Examiner's opinion that one skilled in the art upon reading the disclosure would not be able to determine the manner in which this "means" would operate without undue experimentation because there is no prior art that provides a "guide" as to how the described "means" works. Note that the applied prior art, Suzuki et al, anticipates this limitation in the form of "spacer" or "spacers" that adjusts the horizontal distance or clearance between the blades (17 and 19).[20] This is one of many examples known in the art for establishing and adjusting the cutting gap. Furthermore, the specification at page 7, lines 11-19 sets forth that after loosening of the screw (24), the bush (13) is rotated by a pin wrench (25) to thereby displace the bush and set the gap. However, neither the specification nor the drawings teach how the pin wrench may be operated to turn the bush. As noted above in the original Examiner's Answer on this issue, the only "slot" in which the pin wrench may be inserted is the axial slot (not designated by reference) shown above the upper circular blade (2) near the top of the U-shaped frame of cutter unit (14) in Fig. 1. Clearly, one skilled in the art would not be able to ascertain how that slot would allow rotation or cranking of the pin wrench since that slot appears to only allow axial movement which does not correspond with the depiction in Fig. 4 which appears to limit the pin wrench movement to rotation about an axis (broken dashed line near reference 1 in Fig. 4). It should be noted that the displacement of the bushing, *per se*, is not in question. The question lies in how this is facilitated especially in light of the claimed

[20] Suzuki et al, c. 9, ll. 24-31.

limitation "means for establishing and adjusting a cutting gap." This limitation does not state that the claimed "means" *allows* for the establishment and adjustment of the cutting gap, i.e. the claimed limitation sets forth a positive rather than a passive "means" limitation as would be surmised if the "means" was set forth as "means for allowing..." The Examiner makes this point because even if the Board takes the Appellant's position on this issue, the Appellant's arguments are contrary to the wording of the claim. In the Brief, page 8, lines 16-21, the Appellant states that the so called "circumaxial slot" reads on the claimed "means" at issue because this slot *allows* movement of the pin wrench and the bush. However, a "slot", whether "circumaxial" or not, cannot establish and adjust the cutting gap because as Appellant states, this "slot" merely allows this function to occur rather than positively acts to establish and adjust the cutting gap as called for in the claims.

Another point of contention is that the specific invention that comprises Appellant's best mode is not clear. Nevertheless, the Examiner is regarding this as an enablement issue rather than best mode. It is emphasized that it is not clear what the invention comprises especially due to the fact that there are issues as to what features are encompassed by the claimed "means" as noted above with respect to the discrepancy between Appellant's arguments and the specification teachings and also as to how this "means" is enabled.

Furthermore, another point of contention resides in the submitted evidence purported to show the manipulative pin wrench structure, filed on e.g. May 21, 2001, which was not timely presented for consideration. Nevertheless, a cursory review of the submitted evidence shows that the teachings therein would not be considered as being

analogous since this specific example has no bearing on axial adjustment of a rotating slitter much less a cutter of any sort, i.e. the evidence relates to adjustment of a valve. Moreover, one of ordinary skill in the art would not have found it obvious to apply the teachings of the submitted evidence to determine how the claimed "means" operates. On the other hand, if the Appellant's statements about the applicability of the submitted evidence should be taken into weighted consideration, then this simply shows that the claimed "means" would be obvious to the ordinary artisan and therefore unpatentable.

Re Section 112, First Paragraph, Rejection - Issue 2

In response to Appellant's basic argument that the description in p. 7, l. 29 - p. 8, l. 14 of the specification provides an enabling disclosure, this argument is traversed.[21]

First, Appellant argues that the subject matter of this portion of the specification applies to only claims 10 and 15. For this reason alone, the rejection of the remaining claims under this issue should be reversed.[22] However, this fails to address the broader impact of the information provided in the description. This section of the specification *compares* the prior art with the disclosed invention and purports to the merits of the invention over the prior art. By definition, the "comparison" encompasses and affects any prior art device that has substantially the same features as claimed, i.e. upper and lower circular blades, upper and lower blade shafts, driving means, frame, means for rotatably supporting the blade shafts, and the means for establishing and adjusting the cutting gap, and not just the parameters listed in the Table in p. 8 of the specification.

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[21] Brief, p. 9, l. 1 - p. 10, l. 18.
[22] *Id.*, p. 9, ll. 6-10.

For example, how is it possible for any prior art device or the invention to exist and perform as disclosed if the circular blades do not have shafts or means for rotatably supporting the shafts? How is it possible to have the overlap or the cutting angle without the means for rotatably supporting the shafts? Moreover, would the results shown in the Table be the same without the shafts, driving means, frame, means for rotatably supporting, etc.? In sum, while claim 1 might not *explicitly* include details of the Table parameters, they are implied in the claim because these parameters are not mutually exclusive from the features claimed therein in order to obtain an operative and enabling device that purports to the merits of the invention. In the same vein, claims 1, 18, and 21 all include circular blades, blade shafts, and means for rotatably supporting the blade shafts which inherently include blade diameters, an overlap, and a cutting angle. Even if Appellant's assertions are correct, i.e. this issue should only apply to claims 10 and 15, the underlying basis for the rejection would still remain the same, i.e. the comparison is non-enabling. Regarding Appellant's assertion that the remaining claims should be reversed, this assertion is technically incorrect. If claims 10 and 15 stand or fall together, then claims 11, 12, 16, and 17 would also stand or fall together with claims 10 and 15 since claims 11-12 depend from claim 10 and claims 16-17 depend from claim 15.

In response to Appellant's basic argument and explanation of the comparison that allegedly overcomes the non-enabling issue,[23] this argument is traversed. It is understood that the percentages are representative of the prior art versus the invention. It is also understood that the corresponding reference numerals are shown in Figs. 5-6

of the application. However, this entirely misses the point. The issue is what *exactly* are the prior art values and measurements, i.e. hard data, that form the basis for the 100%? Appellant's contention that "Certain measurements and values of features in the prior art are represented as a baseline of 100% in the table"[24] is insufficient to apprise one skilled in the art to make an objective comparison in performance between the hypothetical prior art and the disclosed invention. For example, the Appellant directs the Board's attention to the discussion of the prior art in the specification at p. 1, l. 15 - p. 2, l. 22. However, none of the discussion provides any numerical values, i.e. hard data, to the circular blade diameter, the overlap, the cutting time, and the cutting angle. The only data that the discussion provides is the typical prior art shaft diameter, i.e. 105 mm, which is not even one of the parameters listed in the Table.[25] Moreover, none of the mentioned prior art, Marinori (FR 612,303) and Metal Box Ltd. (FR 2,340,170), provide any numerical values to the relevant parameters.[26] Therefore, one skilled in the art reading this comparison would be at a loss as to what would be considered the prior art. This begs the question of whether or not the invention would obtain the same results with any hypothetical "prior art" device, e.g., circular blade diameter of 3-15 cm, overlap of 0.05-10 mm, etc. Lacking these details, it is not clear to the Examiner how the Table could substantiate anything much less the alleged improved cut-edge quality

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[23] *Id.*, p. 9, l. 11 - p. 10, l. 2.
[24] *Id.*, p. 9, ll. 14-15.
[25] See Application Specification, p. 2, ll. 17-18.
[26] The Examiner is aware that these references were not used in the rejection that lead to this appeal. However, they are only mentioned as evidence of lack of comparative data. It should not be construed as a new grounds of rejection. Regarding the Examiner's statement that these references do not provide any numerical data, the Board's attention is respectfully directed to those instances in the respective disclosure where actual numbers are used since these references are in French. None of these numbers

achieved by the invention. Furthermore, it appears that the comparison, at most, merely shows the inherent results of a cutting unit that is smaller in size than a hypothetical prior art device. The Appellant traverse the Examiner's characterization on this issue by stating that the Examiner "oversimplified" the significance of the present invention.[27] How? It is acknowledged that the blade diameter, shaft diameter, cutting angle, and cutting force on the blade are all interrelated. However, that does not detract from the fact that a smaller diameter blade does not require as large a shaft diameter, cutting angle, and cutting force of a larger blade since the required shaft diameter, cutting angle, and the cutting force is *directly related* (or proportional) to the diameter of the blade. As Appellant states,

> "*Large blade diameters*, in turn, *reduce* cutting angle, thereby requiring *more* cutting force and demanding *larger* shafts."[28] (emphasis added).

Thus, if this is true, then smaller diameter blades must have proportional characteristics, i.e. smaller diameter blades must have an *increased* cutting angle and requires *less* force and *smaller* diameter shafts.

SUPPLEMENTAL - Explanation Re: Section III (b) From Remand

In Section III(b) of the Remand, the Board required a specific explanation as to how and why the comparison between the prior art and the Appellant's invention

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are numeric values for the relevant parameters. These numbers are representative of the reference numerals used to describe the respective inventions.

[27] Brief, p. 10, ll. 3-12.

described in the specification pages 7 and 8 and shown in Figs. 5 and 6 would have prevented a person of ordinary skill in the art from making and using, without undue experimentation, the structure recited in the claims on appeal.

In response thereto, the following explanation is an addendum to that given in the original Examiner's Answer as set forth *supra*. It is respectfully noted to the Board that the chart purports to the merits of the invention which is an assertion that the claimed invention is patentable over the prior art, at least the prior art disclosed in the instant application. Thus, this is a grounds for the Appellant to establish how the data shown in the charts is an improvement over the prior art. It is also submitted that there are many different sizes of cutters encompassed in the art of slitters using upper and lower circular blades with such arrangements having different, and arguably obvious, effects. For example, larger diameter blades have smaller cutting angles which requires larger forces for certain materials and thickness. Due to the many different possibilities within this art, a valid and objective comparison cannot be made without baseline data, and the disclosure fails to provide this required information. For example, is the chart valid for various different sized prior art diameters, overlap, shearing surface, and cutting time? If not, then for the single example given, what was the dimensions for the prior art diameter, overlap, shearing surface, and cutting time? In sum, without an understanding as to what is encompassed by the prior art shown in the chart, it would seem to require undue experimentation by a person of ordinary skill in the art to make and use the invention.

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[28] See *Id.*, p. 8, ll. 7-9.

Alternatively, it is the Examiner's understanding that comparison studies in the specification are considered hearsay under rules of evidence unless proven by affidavits or declarations under 37 CFR 1.132. Therefore, it is submitted that the chart is of little probative value.

Re Section 112, Second Paragraph, Rejection - Issue (i)

In response to Appellant's basic argument that claim 1 is in fact definite,[29] this argument is traversed. The Appellant basically summarizes that the "means for releasably coupling" includes the drive shaft 16,[30] yet it is not clear how just the drive shaft may be construed as the "means." At most, the drive shaft 16 may be construed as a "means" that *allow* coupling to occur, but it cannot be reasonably construed as a "means for releasably coupling." It is emphasized that the argued claimed "means" calls for some sort of "coupling." Thus, it is incumbent upon the Appellant to provide details of the "coupling" in the specification. The Appellant sheds some light on this by asserting that the "coupling" *can* include, but is not limited to, splines, a dog clutch, cogs, belt and pulley, and equivalents of the foregoing.[31] Therefore, based upon the Appellant's explanation, the so called "means for releasably coupling" must include the drive shaft *and* the coupling thereto of which examples have been listed above. However, the specification makes no mention of the coupling. P. 6, ll. 19-33 of the specification only makes mention of the drive unit with motor 30 as being detachable. None of the above mentioned examples were cited, and the rest of the specification fails

[29] Brief, p. 10, l. 24 - p. 11, l. 23.
[30] *Id.*, p. 11, ll. 10-11.

to disclose such a coupling. Thus, the scope of the "means for releasably coupling" is unascertainable, ambiguous, and indefinite.

Re Section 112, Second Paragraph, Rejection - Issue (ii)

In response to Appellant's basic argument that claim 6 is definite because the claim is directed to the combination of a cutter unit and means for mounting and positioning as described in the specification,[32] this argument lacks merit. This combination, as Appellant points out, is precisely the reason why the claim is indefinite. Claim 1 from which claim 6 depends sets forth a circular cutting unit, not a broader cutting apparatus where the combination might be appropriate. As the Examiner points out, each cutting unit 14, 15 has a means, i.e. the bushing 26, 27, that *allows* the frame of the cutting unit to be displaced, but the rails 6 belong on the overall cutting apparatus, not on the individual cutting units. Lastly, the Appellant asserts that claim 6 should stand alone. However, this is incorrect. Claim 7 should also stand or fall under this issue since claim 7 depends from claim 6.

Re Section 112, Second Paragraph, Rejection - Issue (iii)

In response to Appellant's basic argument that claim 7 is definite because the Appellant contends that the "means for rotatably supporting" in claim 1 does not encompass axial movement of the rotating axis,[33] this argument lacks merit. The Appellant's focus is misplaced. Claim 1 calls for both a "means for rotatably supporting"

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[31] *Id.*, p. 11, ll. 7-10.
[32] Brief, p. 11, l. 25 - p. 12, l. 6.

and a "means for establishing and adjusting a cutting gap." See claim 1. As both the Examiner and the Appellant pointed out *supra*, the axially displaceable bush 13 is one of the features that facilitates establishment and adjustment of the cutting gap. Since the bush 13 is part of the "means for establishing and adjusting a cutting gap" (claim 1), how is it possible to now be a part of the "means for rotatably supporting" (claims 1 and 7)? Appellant is correct that the "means for rotatably supporting" in claim 1 does not encompass axial movement of the rotating axis *because the "means for establishing and adjusting a cutting gap" in claim 1 does*. Thus, claim 7 clearly does not provide a clear structural line of distinction between the different "means", and therefore, indefinite.

Re Section 112, Second Paragraph, Rejection - Issue (iv)

In response to Appellant's basic argument that claim 10 is definite because of an explanation offered in a previous amendment and the explanation of Figs. 5-6 in the specification,[34] this argument lacks merit. Note that the specification at p. 8 does not provide any definition of the "cutting angle." The definition was given in Appellant's *arguments* traversing this rejection in the above mentioned amendment.[35] The specification was not amended to include this definition. Thus, since the "cutting angle" is being claimed, then it is incumbent upon the Appellant to provide the requisite definition *in the specification*. Otherwise, how will one skilled in the art able to discern exactly how the cutting angle is defined?

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[33] Brief, p. 12, ll. 8-22.
[34] Brief, p. 12, l. 24 - p. 13, l. 9. It is noted that the Amendment Appellant refers to is Amendment B, Paper No. 13.
[35] See Amendment B, Paper No. 13, p. 9, ll. 4-6.

Re Section 112, Second Paragraph, Rejection - Issue (v)

In response to Appellant's basic argument that claims 12 and 17 are definite because they refer to the "plane of the flat material,"[36] this argument lacks merit. A "horizontal plane" and the "plane of the flat material" are not co-extensive in scope. The former is constant while the latter is not because of the simple fact that the plane is defined with respect to the work which can flex and move. Appellant's comment about the proposed amendment to these claims is noted. However, the After Final Amendment filed on January 28, 2001 was not denied entry simply because of this proposal alone.[37] In any event, the Examiner will withdraw this rejection if Appellant submits an amendment that corrects the antecedent basis problem in claims 12 and 17.

Re Section 102 Rejection

In response to Appellant's basic argument that Suzuki et al does not anticipate the claimed invention,[38] this argument is traversed.

First, the Appellant argues that Suzuki et al lacks the claimed "frame having a substantially U-shape when viewed in a direction perpendicular to the plane of the flat material with upper and lower legs interconnected by a flat yoke."[39] This argument lacks merit. As shown in Fig. 3 of Suzuki et al, the frame 25A has a substantially U-shape when viewed in a direction perpendicular to the plane of the flat material W. The

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[36] Brief, p. 13, ll. 11-19.
[37] See Advisory Action, Paper No. 33, mailed January 29, 2001.
[38] Brief, p. 13, l. 24 - p. 16, l. 26.
[39] *Id.*, p. 14, ll. 15 - p. 15, l. 10.

Appellant asserts that Suzuki et al's frame is rectangular rather than substantially U-shape. However, it is not clear to the Examiner how much more Appellant's disclosed frame is U-shaped compared to Suzuki et al, i.e. what is the patentable distinction? Viewing Fig. 3 of the application, it appears that Appellant's own invention could be said to be rectangular. The Appellant avers that the claimed limitation should be construed as viewing the frame from above the frame.[40] This is confusing. Claim 1 only requires that the frame must be viewed from a point perpendicular to the plane of the flat material. In that regard, Fig. 1 of the specification shows the flat material 10 defining a horizontal plane. A perpendicular plane with respect to the horizontal would be exemplified by Figs. 2-3 of the specification. The specification Fig. 2 would not be the correct interpretation because the frame does not remotely resemble a U-shape. The specification Fig. 3 would be the correct interpretation because this view shows the frame as substantially U-shaped. As noted above, there is no patentable distinction between the views shown in Fig. 3 of the application and Fig. 3 of Suzuki et al. Claim 18 is the only claim that requires the view from above the horizontal plane, i.e. "frame having substantially a U-shape when viewed from above the horizontal plane."[41] However, this is still a broad limitation in that the frame can viewed *anywhere* from above the horizontal plane. In that regard, Fig. 4 of Suzuki et al clearly shows frames 25A, 25B having a substantially U-shape. Moreover, the term "substantially" is a broad term, *In re Nehrenberg* (CCPA) 126 USPQ 383, which does not limit interpretation to exactly a U-shape nor the U-shape disclosed in the application. Thus, Appellant's

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[40] *Id.*, p. 14, ll. 22-25.
[41] Appendix A, claim 18, ll. 15-16.

assertions that Suzuki et al displays a U-shape only when viewed in a direction parallel to the plane of the flat material, i.e. viewing the frame from the side, not perpendicular to the plane of the flat material as recited in the claims, utterly fails. It is also confusing. How can Appellant assert that the Fig. 3 view in Suzuki et al, or from the side as Appellant notes, is not perpendicular to the plane of the material W? The above the plane view as Appellant asserts is *the* parallel horizontal plane not the perpendicular to the plane of the material. For the foregoing reasons including the fact that Appellant's arguments are confusing, Appellant's assertions fails to show that Suzuki et al does not anticipate the claimed frame.

Second, the Appellant argues that Suzuki et al lacks the claimed "means for releasably coupling."[42] This argument lacks merit. The Appellant contends that the claimed "means for releasably coupling" includes a single drive shaft 16 to drive the entire cutter unit as claimed in amended claims 1, 18, and 21. What is the basis in claims 1, 18, and 21 for Appellant's contentions? None of these claims require a single drive shaft.[43] Moreover, besides the fact that this "means for releasably coupling" is indefinite, Appellant appears to take the view point that since Suzuki et al does not include the drive means as disclosed in Figs. 1-4 and pp. 6-7 of the specification, Suzuki et al does not anticipate this limitation. In that regard, the Appellant is reminded that the features upon which Appellant relies (i.e., single drive shaft and lower gear) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re*

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[42] Brief, p. 15, l. 18 - p. 16, l. 2.
[43] Note Appendix A, claim 1, ll. 20-21; claim 18, ll. 21-22; and claim 21, ll. 14-15.

Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, contrary to Appellant's assertions, Suzuki et al does include a "means for releasably coupling" since the driving unit having a motor 299 and the connection thereto to one of the circular blades is inherently detachable. See Figs. 2, 3, and 6 in Suzuki et al. Thus, Suzuki et al anticipates this limitation.

Third, the Appellant argues that Suzuki et al lacks the claimed non-positive drive connection between the circular blades including a transport ring.[44] This argument lacks merit. Contrary to Appellant's assertions, it is irrelevant whether or not Suzuki et al has a need to have a driving relationship between the blade 17, 19 for one blade to drive the other blade because Suzuki et al *inherently* includes this relationship. The claimed "non-positive drive connection" only requires a transport ring mounted for rotation with the blade on one of the blade shafts and in driving relationship on the other of the blade shafts. As such, Fig. 5 of Suzuki et al clearly shows a "non-positive drive connection" between the circular blades 17, 19 including a transport ring 143 (for 17), 173 (for 19) mounted for rotation with the blade on one of the blade shafts and in driving relationship with the blade on the other of the blade shafts *due to the frictional engagement between the blades 17, 19 and the transport rings 143, 173* as shown in Fig. 5. See Suzuki et al, c. 9, l. 10 - c. 10, l. 13. Moreover, it is irrelevant whether or not Suzuki et al includes individual drive shafts because the claims do not require a distinction between one or many drive shafts. Furthermore, it is not clear how much of a need Appellant's own invention has to have a driving relationship between the blades when this "non-positive connection" would not be in effect when a flat material is fed

through the cutting unit. In other words, since the flat material inherently has a certain thickness, the blades and transport rings 2, 4 in Appellant's invention would not be in direct contact with each other to effect any driving of each other. Any "driving" that occurs at this point is facilitated by the drive shaft 16 and the frictional contact of the blades and transport rings with the opposite surfaces *of the flat material* and not between the blades and transport rings. Therefore, what patentable distinction is being shown with this argued "need"? Lastly, the Appellant mis-characterizes disk rolls 143, 173 in Suzuki et al as simply structure that creates the horizontal distance or clearance between the blades 17, 19. The Board's attention is respectfully directed to c. 9, ll. 24-31 of Suzuki et al which teaches that a spacer or spacers (not shown) may be inserted between the shearing tool and the disk roll 143 *or* disk-like portion or member 141 to facilitate the horizontal adjustment. Clearly it is not disk rolls 143, 173 that sets the horizontal distance. It is the spacers.

SUPPLEMENTAL - Explanation Re: Section III (c) From Remand

In Section III(b) of the Remand, the Board required an elaboration of the Examiner's position as spelled out in the Answer (Paper No. 39) as to how the apparatus disclosed by Suzuki meets the specific limitations in claim 1 and 18 relating to the U-shaped frame and the non-positive or frictional drive connection, since such is not readily apparent.

In response thereto, the Board's attention is respectfully directed to compare Figs. 3 and 4 of Suzuki et al.

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[44] Brief, p. 16, ll. 3-13.

First with respect to claim 1 which calls for "a frame having substantially a U-shape when viewed in a direction perpendicular to the plane of the flat material with upper and lower legs interconnected by a flat yoke intersecting said plane of the flat material at an acute angle," Figs. 3 and 4 of Suzuki et al appears to show this claimed feature to the degree the scope of the claimed invention is understood. Initially it is noted that the term "substantially" is a broad term, *In re Nehrenberg* (CCPA) 126 USPQ 383, which does not limit the interpretation to exactly a U-shape nor the U-shape disclosed in the application. In that regard, the frame in Suzuki et al is defined by an upper leg (25B); a lower leg (27); and a flat yoke (e.g. 39B) in that this yoke has a flat shape and surface. This interpretation of Suzuki et al's frame is in reference to the to the view perpendicular to the horizontal plane of the work (W) in that the substantial "U-shape" is defined by (25B, 39B). Alternatively, the plane may be defined by the side plane of the flat material since flat material inherently includes different planes and since claim 1 does not explicitly limit this plane as being on the horizontal. In that regard, Suzuki et al's frame is substantially U-shaped in side view, i.e. the upper leg (25B); the lower leg (27); the rear portion of (25B) and the support member (33B) spanning the legs to form the "U"; and the legs interconnected by a flat yoke (e.g. 39B - flat surface and shape) intersecting this plane of the material at an acute angle in that the flat plane of the yoke intersects this side plane of the material.

Second with respect to claim 18 which calls for "a frame having substantially a U-shape when viewed from above the horizontal plane with upper and lower legs interconnected by a flat yoke intersecting said horizontal plane at an acute angle," Fig. 4 of Suzuki et al appears to show this claimed feature to the degree the scope of the

claimed invention is understood. Initially it is again noted that the term "substantially" is a broad term, *In re Nehrenberg* (CCPA) 126 USPQ 383, which does not limit the interpretation to exactly a U-shape nor the U-shape disclosed in the application. The statement that "...when viewed from above the horizontal plane..." does not limit the interpretation as being strictly perpendicular to the horizontal plane. This "view" could be at an angle as long as it is viewed from above the horizontal plane. In that regard, Fig. 4 appears to show these claimed features, i.e. upper leg (25A or B); lower leg (27); the rear portion of (25A or B) and the support member (33A or B) spanning the legs to form the "U"; and a flat yoke (e.g. 39A or B - flat surface and shape) intersecting the horizontal plane at an acute angle.

Third, with respect to the non-positive or frictional drive connection, Suzuki et al shows these features in Fig. 5. The upper blade (17) has a transport ring (143) adjacent thereto (to the right of blade 17). The lower blade (19) has a transport ring (173) disposed adjacent and to the left of the lower blade. Both the blades and the respective transport rings are in frictional engagement with each other along the circumference thereof. Therefore, all the blades and the rings form a "non-positive or frictional drive connection" when the shafts are rotated.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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March 27, 2003

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